

epiTRENDS

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Foodborne Illness Outbreak Reporting in Washington State

Imagine you work for a local health jurisdiction that receives laboratory reports of *Salmonella* isolated from two unrelated cases during a single weekend. This is unusual in your small community. The ill persons, who do not know each other, are interviewed about recent food exposures and they both report eating crab cakes in a local restaurant within a couple of days before onset of illness. The same week a distant county receives a report of a teenage girl with salmonellosis. On questioning, she reports that two of her friends were also ill with similar symptoms. While visiting together, all three had enjoyed making brownies and sampling the delicious uncooked batter. Meanwhile, in an adjoining state a local health jurisdiction is interviewing a family with salmonellosis cases whose shared food history includes a homemade custard cake.

These reports actually occurred. Separately each led to some important local public health actions. These included identifying and correcting an unsafe commercial food preparation practice, providing education to consumers regarding safe food handling in the home, and hygiene recommendations to prevent transmission. However, when these reports were aggregated, they also contributed to a much larger investigation involving multiple states and agencies, ultimately leading to the removal of an unsafe product from the food supply. Each of these individual cases resulted from consumption without adequate cooking of a particular type of egg from a flock of chickens in the eastern United States infected with *Salmonella*.

Outbreak Investigations

Without investigation of foodborne illness by alert local health departments, the reporting of even very small outbreaks to state health departments, and the submission of bacterial isolates to state public health laboratories, the connection between these cases would not have been made; without the links identifying the risks, this product and many others would not be removed from the marketplace. The investigating and reporting of possible foodborne illness outbreaks by local health departments is the necessary and most important link in the chain of events leading to prevention of foodborne illness on a larger scale.

Reports of widely dispersed outbreaks have increased in recent years as a result of wider food distribution networks, and also as a result of better surveillance methods. Molecular sub-typing (strain typing such as by pulsed field gel electrophoresis or PFGE), interstate

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sharing of information on pathogen identification, and earlier alerting capabilities by local, state and federal agencies all contribute to improved detection of clusters of illnesses over increasingly large geographic areas.

Information gained from foodborne outbreak investigations serves many goals in addition to the identification of contaminated products and the correction of faulty food production or food handling practices. Other purposes include the recognition of new food hazards and routes of transmission of foodborne pathogens, expanding the understanding of who is at risk for foodborne illness, and the development of food safety training programs and policies.

What is a Foodborne Outbreak?

A foodborne disease outbreak is defined as the occurrence of two or more cases or suspected cases of a similar illness resulting from the ingestion of a common food. An exception is food botulism, for which a single case warrants public health investigation. There may or may not be laboratory evidence of a specific etiologic agent confirmed as causing the outbreak. Outbreaks of suspected etiology are based on information such as symptoms, incubation period and implicated food vehicle. For example, outbreaks with vomiting in a majority of cases, an incubation period median of 36 hours, a duration of 24–48 hours and the occurrence of secondary cases may be classified as “norovirus suspected”. Outbreaks of unknown etiology are those for which no single agent is confirmed or suspected.

Similarly, a food vehicle responsible for the outbreak may also be classified as confirmed or suspected. Confirmation of a food vehicle consists of either laboratory detection of the etiologic agent in a food item (after identification of the agent from human samples), or by an epidemiologic cohort or case-control study resulting in a statistically significant association between illness and a specific food. In the absence of laboratory or statistical evidence, a food vehicle may be classified as suspect due to known risk factors, errors identified in food preparation, or consumption of a single food by a high proportion of the cases. Only a few outbreaks have a confirmed food vehicle. Note that an outbreak may be documented even though the etiology and food vehicle of that outbreak cannot be determined.

Reporting of Outbreaks

Potential foodborne illness outbreaks can be reported to local health jurisdictions by health care providers, laboratorians, or citizens observing a cluster of illness. Clusters not identified through laboratory testing can be detected only if health care personnel and citizens are sufficiently motivated to report their observations and if health departments are allocated the necessary resources to investigate such reports. Outbreaks can also be detected by local and state laboratories, but only when ill persons seek medical attention, appropriate specimens are collected for testing, and any positive results reported to the local health jurisdiction.

***epi*TRENDS Monthly Posting Alert**

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All outbreaks, whether suspected or confirmed, are immediately notifiable by local health jurisdictions to the Department of Health, Communicable Disease Epidemiology (DOH CDE)(1-877-539-4344). Timely reporting is the key to assessing the extent of an outbreak, which may often involve multiple jurisdictions. When needed, DOH CDE along with DOH Food Safety Program can assist local health jurisdictions with laboratory testing, case-finding, and epidemiologic and environmental field investigations.

According to Washington Administrative Code (WAC 246-101-510) a final written report is due within seven days of completing an outbreak investigation. The final report includes Part I (Epidemiologic Investigation) and Part II (Field Investigation) of the DOH Foodborne Outbreak Reporting Form. These forms are available at:

www.doh.wa.gov/ehp/sf/food/foodpubs.htm

DOH is responsible for compiling and reporting foodborne outbreak data to the Centers for Disease Control and Prevention (CDC) for incorporation into national foodborne surveillance and reporting systems. Outbreak data are submitted electronically to CDC using the format of CDC Foodborne Outbreak Reporting Form (informally known as the “Fork and Spoon” form). When summarizing outbreaks involving many persons, local health jurisdictions may use the CDC form and submit this to DOH CDE along with additional documentation summarizing the investigation. The CDC form is available at:

www.cdc.gov/foodborneoutbreaks/reporting_outbreak.htm

More information regarding reporting of foodborne outbreaks and descriptions of common agents causing foodborne illness are available on the DOH website:

www.doh.wa.gov/notify/nc/foodborne.htm

or by calling:

Communicable Disease Epidemiology Section at 206-418-5500 or 877-539-4344

or the Food Safety Program at 360-236-3330.